



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,719

04/24/2008

Tomonori Nakamura

2006\_1567A

2831

52349 7590 10/06/2008  
WENDEROTH, LIND & PONACK L.L.P.  
2033 K. STREET, NW  
SUITE 800  
WASHINGTON, DC 20006

EXAMINER

SHEPELEV, KONSTANTIN

ART UNIT

PAPER NUMBER

2431

MAIL DATE

DELIVERY MODE

10/06/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/593,719	NAKAMURA, TOMONORI	
	<b>Examiner</b>	<b>Art Unit</b>	
	KONSTANTIN SHEPELEV	2131	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is in response to application filed on April 24, 2008 in which claims 1-6 are presented for examination.

#### ***Status of Claims***

Claims 1-6 are pending; of which claim 1 is in independent form. Claim 6 is canceled. Claims 1-5 are rejected under 35 U.S.C. 103(a).

#### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Device for executing an application program based on the confidentiality information associated with program classes.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torii et al. (US 2002/0184495 A1) in view of Kershenbaum et al. (US 2002/0184486 A1).

With respect to claim 1, Torii teaches the limitation of “an encryption judgment unit operable to judge whether or not encryption of data manipulated by a given one of the methods is necessary, with reference to the confidentiality information that corresponds to the class to which the method belongs” (page 1, paragraph 0012) as necessity determination means for determining whether or not received data needs to be encrypted.

In addition, Torii teaches the limitations of “an object recording unit operable to, when the method is to be executed, record, in a memory, an object that includes the data that the method manipulates” and “when the encryption judgment unit judges that encryption is necessary, the object recording unit records the object with encrypted data included therein” (page 1, paragraph 0013) as encryption means for encrypting data which is determined as having to be encrypted, before being stored in a storage apparatus.

It is noted, however, that Torii does not explicitly teach the limitation of “the application program including one or more classes that each have one or more methods, and confidentiality information that corresponds respectively to the classes and that expresses whether or not it is necessary for the corresponding class to be confidential.”

However, Kershenbaum teaches (page 5, paragraph 0059) Java 2 allocates Permissions to classes, thus can allocate confidentiality information to classes by using structure of Object Oriented program code.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate teachings of Kershenbaum into the system of Torii to further secure the system by not only controlling the authorization usage of the collection of code but also encrypting the necessary portions of it.

With respect to claim 2, Torii teaches the limitation of “the confidentiality information further includes information showing a level of confidentiality” (page 4, paragraph 0072) as the importance of the data is determined by the NIC based on an item provided to the data, namely an indicator regarding importance.

In addition, Torii teaches the limitation of “the execution device further comprises an encryption method determination unit operable to, with reference to the confidentiality information, determine an encryption method, and when the encryption determination unit judges that encryption is necessary, the object recording unit records the object with the data encrypted according to the determined encryption method” (page 4, paragraph 0080) as based on the determination result regarding importance of data the NIC determines whether or not it is necessary to encrypt the data. Then (page 4, paragraph 0083) the encrypted data is stored in the HDD or RAM.

With respect to claim 3, examiner takes the official notice that replacing encrypted data in the object or a database with the encrypted data is well known in the art as the concept of inheritance. It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate this knowledge into the system of Torii and Kershenbaum to improve the security of the system.

With respect to claim 4, Torii teaches the limitation of “the object recorded in the memory includes information showing whether or not the data in the object is encrypted, and

Art Unit: 2131

when the information shows that data in the object is encrypted, the data is recorded encrypted” (page 4, paragraphs 0069 and 0071) as the NIC determines whether the received data already is in an encrypted form. The determination of whether or not the data is in encrypted form is made possible by determining whether or not the data is marked with an encryption flag.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torii et al. (US 2002/0184495 A1) in view of Kershenbaum et al. (US 2002/0184486 A1) as applied to claim 1, and further in view of Caronni et al. (US 20030133574 A1).

With respect to claim 5, it is noted that neither Torii nor Kershenbaum teach the limitation of “a data judgment unit operable to judge whether or not the data is data necessary for specifying an address location of other data, wherein when the data judgment unit judges that the data is data necessary for specifying an address location of other data, encryption is suppressed.”

On the other hand, Caronni teaches the above motioned limitation (page 2, paragraph 0029) as Memory Management Unit (MMU) associates key tags with particular memory regions so that every time MMU retrieves a map between a virtual memory address and physical memory address, a corresponding key tag is accessed. The key tag may indicate that the instruction(s) or data at the physical memory address are unencrypted and should be processed in the clear (e.g., without encryption or decryption).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate teachings of Caronni into the system of Torii and Kershenbaum to reduce the overhead on the processing unit by not requiring decrypting the address information for every data transfer.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KONSTANTIN SHEPELEV whose telephone number is (571)270-5213. The examiner can normally be reached on Mon - Thu 8:30 - 18:00, Fri 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Konstantin Shepelev/  
Examiner, Art Unit 2131  
/Syed Zia/  
Primary Examiner, Art Unit 2131

9/30/2008